GNV5

LIBRARY
STATE PLANT BOARD

ET-114 December 1937

United States Department of Agriculture
Bureau of Entomology and Plant Quarantine

A MOTOR-DRIVEN TELESCOPING STIRRER FOR USE WITH AN INSECTICIDE SPRAYING APPARATUS

By L. D. Goodhue, Division of Insecticide Investigations,
and E. H. Siegler, Division of Fruit Insect Investigations

In connection with laboratory tests of insecticides it is desirable to standardize the procedure and maintain all conditions as constant as possible. In tests where foliage, or in this case where apple plugs are sprayed, it is necessary for the spray gun to deliver the spray material at a constant rate. The commonly used atomizer type of gun with a suction feed can not be expected to deliver at a constant rate unless the level of the liquid in the supply vessel is maintained constant. Since considerable agitation is usually necessary to maintain a uniform suspension of the insecticide, stirring with one hand and keeping the liquid at the correct level with the other becomes a difficult task. The inconvenience in this method prompted the development of this improved stirrer.

The spray apparatus for which this stirrer was developed has been described by E. H. Siegler and F. Munger (A Laboratory Spray Apparatus, Jour. Econ. Ent. 28: 704-706, 1935). The spray gun employed is of the atomizer type with a suction feed.

The telescoping stirrer is shown diagramatically in figure 1. It consists essentially of a $\frac{1}{4}$-inch brass rod 12 inches long fitting inside of a 6-inch piece of brass tubing which holds the propeller. Pressure from the beaker on the bearing point causes the two parts of the stirrer to telescope, thus making it possible to obtain vigorous agitation at the bottom of the beaker and at the same time to keep the level of the suspension constant with respect to the spray gun. The brass tube is provided with a brass collar and screw. The screw slides in the milled groove in the rod and causes the two parts of the stirrer to turn together. The groove begins about 2 inches from the bottom of the rod, thus keeping the two pieces of the stirrer together when the beaker is removed. The lower end of the stirrer is closed and is provided with a blunt point which acts as a bearing on the bottom of the beaker. The use of a rubber propeller, which is easily made from a rubber stopper, eliminates the possibility of breaking the beaker.

The glass tube which conducts the spray material to the gun is made from $\frac{3}{8}$-inch tubing bent as indicated in the diagram. This form allows the level of the liquid to be kept constant with respect to the spray gun by raising the beaker as the spray material is withdrawn.

Digitized by the Internet Archive
in 2013

http://archive.org/details/motordriventeles00unit

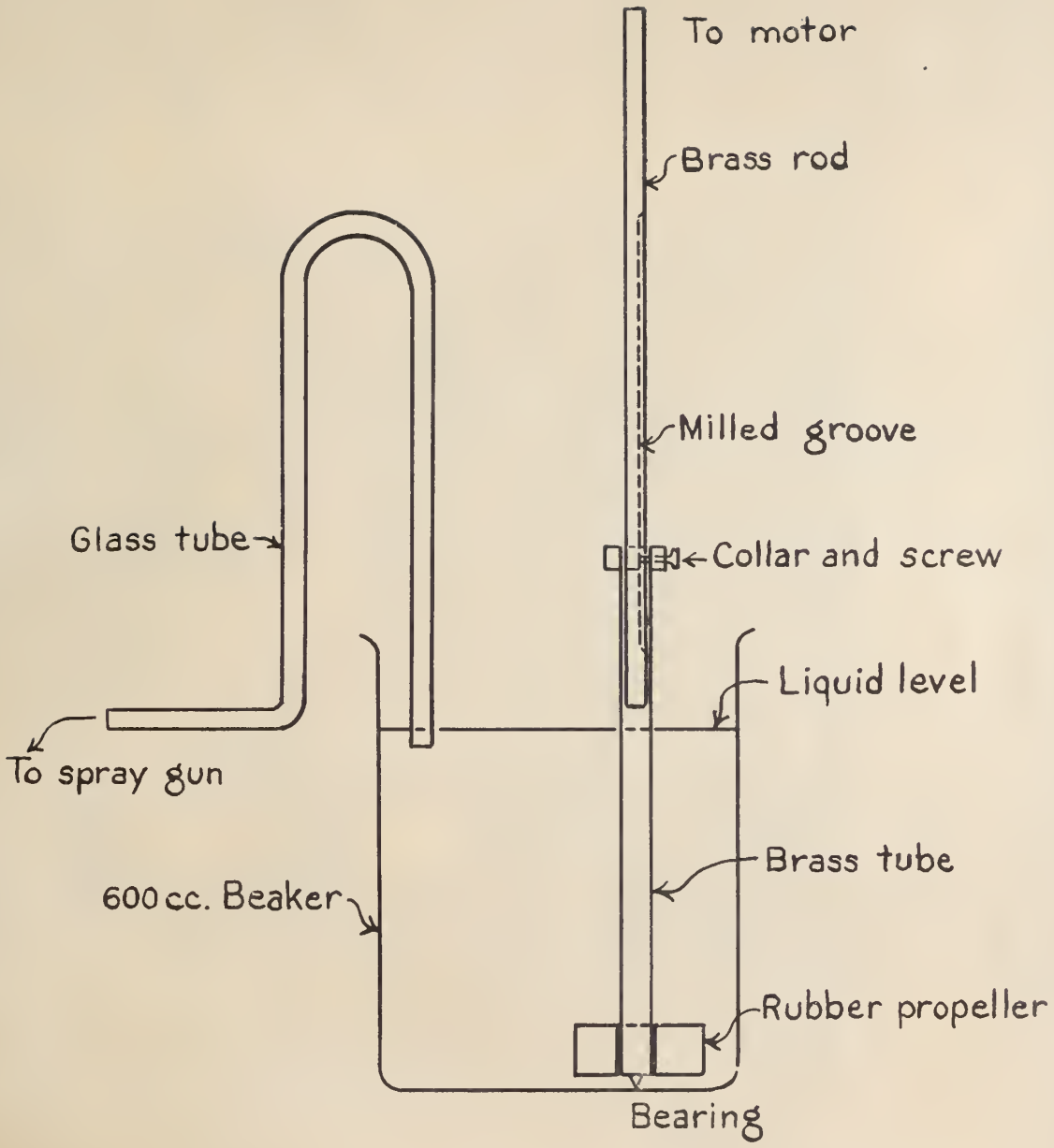

Figure 1.--Diagram of the telescoping stirrer and associated parts.

UNIVERSITY OF FLORIDA
3 1262 09239 5887